

## WHAT IS CLAIMED IS:

1. A method for processing radiography images comprising:  
determine from a three-dimensional modelling a three-dimensional model known as the masked model which features a calcified element and an implanted element, but not a vascular element;  
determine a three-dimensional model known as the subtracted model, which features the vascular elements alone;  
merging the two models, weighting their voxels so as to increase the contrast between the images of the masked model and the images of the subtracted model; and  
summing the voxels thus weighted.
2. The method according to claim 1, wherein the masked image is filtered by removing therefrom any voxel intensities which are below a given threshold.
3. The method according to claim 2, wherein the weighting is applied to the voxels after filtering.
4. The method according to claim 1 wherein the voxels of the masked image are weighted by applying to them a weighting law which, over at least one range of voxel intensities, is a linear function of the intensity.
5. The method according to claim 2 wherein the voxels of the masked image are weighted by applying to them a weighting law which, over at least one range of voxel intensities, is a linear function of the intensity.
6. The method according to claim 3 wherein the voxels of the masked image are weighted by applying to them a weighting law which, over at least one range of voxels intensities, is a linear function of the intensity.

7. The method according to claim 4, wherein the voxels of the masked model are weighted by applying to them a weighting law which, outside of the voxel intensity range, increases less markedly than the linear function of intensity used for the intensity range.

8. The method according to claim 5, wherein the voxels of the masked model are weighted by applying to them a weighting law which, outside of the voxels intensity range, increases less markedly than the linear function of intensity used for the intensity range.

9. The method according to claim 6, wherein the voxels of the masked model are weighted by applying to them a weighting law which, outside of the voxel intensity range, increases less markedly than the linear function of intensity used for the intensity range.

10. The method according to claim 7, wherein the weighting law used outside of the intensity range is a function which, give or take a multiplication factor, corresponds to the square root function.

11. The method according to claim 8, wherein the weighting law used outside of the intensity range is a function which, give or take a multiplication factor, corresponds to the square root function.

12. The method according to claim 9, wherein the weighting law used outside of the intensity range is a function which, give or take a multiplication factor, corresponds to the square root function.

13. The method according to claim 1 wherein the voxels of the subtracted model are weighted by applying to them a coefficient which is the ratio between a value that corresponds to a desired mean value for the voxels of the model in the merged model and a mean value that is calculated over the voxels in the subtracted model.

14. The method according to claim 13, wherein the mean value is calculated by determining the limits of the vessels or vessel portions and by calculating the mean value in the region thus determined.

15. The method according to claim 13, wherein the mean value is calculated by determining portions of straight lines which constitute the main directions of a vessel and by calculating the mean value over these straight lines portions.

16. The method according to claim 1 wherein the anatomical region that it is desired to view is selected beforehand, the masked model and the subtracted model and the merged model being determined for the region.

17. The method according to claim 16, wherein the merged model is produced by pointing to the portion or portions of vessels that the user wishes to view and automatically determining the limits of this or these portion or portions of vessels.

18. An apparatus for radiographic imaging comprising:

(a) means (5) for providing a three-dimensional model to be known as the masked model showing a calcified element and an implanted element, but not a vascular element;

(b) means for providing a three-dimensional model to be known as the subtracted model showing the vascular elements alone;

(c) means for merging the two models and weighting their voxels so as to increase the contrast between the image of the masked model and the image of the subtracted model; and

(d) summing the voxels thus weighted.

19. The apparatus according to claim 18 comprising:

means for filtering the masked image to remove therefrom any voxel intensities which are below and given threshold.

20. The apparatus according to claim 19 wherein the weighting is applied to the voxels after filtering.
21. the apparatus according to claim 18 wherein the voxels of the masked image are weighted by applying to them a weighting law which, over at least one range of voxel intensities, is a linear function of the intensity.
22. The apparatus according to claim 21 wherein the voxels of the masked model are weighted by applying to them a weighting law which, outside of the voxel intensity range, increases less markedly than the linear function of intensity used for the intensity range.
23. The apparatus according to Claim 22 wherein the weighting law used outside of the intensity range is a function which, give or take a multiplication factor, corresponds to the square root function.
24. The apparatus according to claim 18 wherein the voxels of the subtracted model are weighted by applying to them a coefficient which is the ratio between a value that corresponds to a desired mean value for the voxels of the model in the merged model and a mean value that is calculated over the voxels in the subtracted model.
25. The apparatus according to claim 24 wherein the mean value is calculated by determining the limits of the vessels or vessel portions and by calculating the mean value in the region thus determined.
26. The apparatus according to claim 24 wherein the mean value is calculated by determining portions of straight lines which constitute the main directions of a vessel and by calculating the mean value over these straight lines portions.

27. The apparatus according to claim 18 wherein the anatomical region that it is desired to view is selected beforehand, the masked model and the subtracted model and the merged model being determined for the region.

28. The apparatus according to claim 27 wherein the merged model is produced by pointing to the portion or portions of vessels that the user wishes to view and automatically determining the limits of this or these portion or portions of vessels.

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